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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,815	12/07/2001	Romel Amineh	042933/301642	7745

826 7590 01/19/2007

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EXAMINER	
DANG, HUNG Q	
ART UNIT	**PAPER NUMBER**
2612	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/004,815	AMINEH, ROMEL	
	Examiner	Art Unit	
	Hung Q. Dang	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *13* is/are allowed.

6)☒ Claim(s) *1,6-8,11,12,14-17 and 19-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 March 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to application's amendment dated 1/5/2007. The amended claims 1, 12, 14, 16, 19-26 and the canceled claims 2-5, 9-10 and 18 have been entered.

Response to Arguments

2. Applicant's arguments on pages 9-12 have been fully considered but they are not persuasive. Applicant's argument on pages 9-12 regarding claims 1, 12, 14, 16 and 19-26 mainly concerns that the combination of Helm and Acevedo fail to teach or suggest that **the intra-changeable elements are configured to provide an output responsive to message received at the communication unit**, as claimed, since neither Helm nor Acevedo provides for use of intra-changeable elements as an output mechanism responsive to messages received at a communication unit having the characteristics defined in the claimed invention. Examiner disagrees with applicant. Clearly, Helm teaches a communication unit (a laptop) having a display (the display of the laptop), a user interface (the keyboard) separate from the display and a digital control with associated with random access and read only memory for control of said communication unit, **except** that the user interface disclosed by Helm does not teach intra-changeable elements being defined by having a physical characteristic that is changeable responsive to the digital control, wherein said intra-changeable elements are configured to provide an output responsive to messages received at said communication unit. Therefore, examiner brings in Acevedo's reference that teaches a user interface (which is also a keyboard) having intra-changeable elements (display

keys) that are configured to provide an output (change in color on the display of the keys) to differentiate certain groups of keys in response to certain application selected from the user (see column 4, lines 7-16; different applications can be selected and the color of the keys are changed accordingly). Clearly, the communication unit (laptop) disclosed by Helm in view of Acevedo receives the message as to which application is selected and running in order to change the color of the keys in the user interface, accordingly.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 6, 11, 12, 14-17, 19-23, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helm U.S. Patent 5,835,388 in view of Acevedo U.S. Patent 5,818,361.

Regarding claim 1, Helm teaches a communication unit including a display (Figure 7, unit 106), a user interface (the keyboard) separate from the display and a digital control with associated random access and read only memory for control of said communication unit, which includes a plurality of key elements. Said key elements are being controlled by said digital control, and where said elements are used in the user interface of said communication unit.

However, Helm does not teach said key elements being intra-changeable elements, which are defined by having a physical characteristic that is changeable responsive to said digital control.

Acevedo teaches a user interface device, which includes a plurality of keys, which are intra-changeable elements being defined by having a physical characteristic that is changeable responsive to a digital control; wherein said intra-changeable elements are configured to provide an output responsive to messages received at said device (see explanation in the "Response to Argument"). To be specific, intra-changeable elements disclosed by Acevedo are adapted to change color to further differentiate between alphanumeric characters and keys that have functions that differ such as in the application of games (column 4, lines 1-24).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide a user interface unit to the communication unit disclosed by Helm, wherein said interface unit includes keys that are being intra-changeable elements having a physical characteristic that is changeable responsive to a digital control, as evidenced by Acevedo, so that said keys (or intra-changeable elements) can be adapted to change color to further differentiate between alphanumeric characters and keys that have functions that differ such as in the application of games.

Regarding claims 6, 15 and 17, the key elements disclosed by Helm are also compressible and expandable (Figure 7, the shown keys are compressed when they're pressed by the user's finger, and expand when they're released.

Regarding claims 11, 22 and 23, the intra-changeable elements disclosed by Helm in view of Acevedo are also included in both an input and output device (Keys in figure1 of Acevedo reference are considered as both an input and output because the displays on said keys outputting visualization of the indicia of said keys to the user) of said communication unit, and said processor modulates said intra-changeable elements wherein said input and output device is a cover part of the communication unit (Figure 7 of Helm reference, the keyboard of said communication unit is indeed the cover part of said communication unit); and wherein said intra-changeable elements are configured to provide an output responsive to messages received at said device (see explanation in the "Response to Arguments" above)

Claims 12, 14, 16, 20, 21 and 25 are similarly rejected for the same reasons as claim 1. The intra-changeable elements (keys) disclosed by Helm in view of Acevedo are also changeable to provide a sensory indication of the keys available to make the communication unit perform an action by pressing said changeable keys.

Claims 19 and 26 are similarly rejected for the same reasons claim 1. The intra-changeable elements (keys) disclosed by Acevedo, when pressed, generates a control signal (depending on what mode is selected by the switch 22, paragraph bridging columns 4-5) in response to a change in characteristics and wherein the communication device further comprises a transmitter (the electronic equipped with keys in the keyboard 11 is considered as transmitter for transmitting key code when a key is pressed) for transmitting control signals generated by the changeable element in response to a physical deformation.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helm U.S. Patent 5,835,388 in view of Acevedo U.S. Patent 5,818,361 and in further view of Nomura et al. U.S. Patent 6,700,508.

Regarding claim 7, Helm in view of Acevedo teaches a communication unit provided with intra-changeable element according to claim 1, **except** wherein said intra-changeable elements are piezo-electrical elements.

Nomura et al. teaches a keyboard unit for use in a user interface input device. Said keyboard unit is capable of making the user feel a large stroke of a key top when a key is pressed by using piezo-electrical elements (column 1 lines 38-41 and column 2 lines 39-50).

Therefore, it would have been obvious to one skill in the art at the time the invention was made to equip the intra-changeable elements disclosed by Helm in view of Acevedo, as evidenced by Nomura et al., so that the user can feel a large stroke of a key top when a key is pressed.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helm U.S. Patent 5,835,388 in view of Acevedo U.S. Patent 5,818,361 and in further view of Takala et al. U.S. Patent 6,788, 294.

Regarding claim 8, Helm in view of Acevedo teaches a communication unit provided with intra-changeable elements according to claim 1, except wherein said intra-changeable elements are made of elasto-resistive materials.

Takala et al. teaches a method for implementing a key, wherein the key is made up of material whose electrical conductivity is responsive to pressure, so called ER material or elasto-resistive material, so that the position of pressure applied to the material can be determined by means of a conductor connected to the material (column 2, lines 40-48).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide the intra-changeable elements (keys) disclosed by Helm in view of Acevedo with elasto-resistive materials, as evidenced by Takala et al., so that the position of pressure applied to the material can be determined by means of a conductor connected to the material.

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Helm U.S. Patent 5,835,388 in view of Acevedo U.S. Patent 5,818,361.

Regarding claim 24, claim 24 is similarly rejected for the same reasons as claim 1. However, Helm in view of Acevedo does not teach said input device is a four-way-scroller.

Schmucker teaches a key input unit for use in a communication unit, wherein said key input unit is a four-way-scroller, so that said communication unit is capable of commanding four directions (column 1, lines 58-61).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide a four-way-scroller to the communication unit disclosed

by Helm in view of Acevedo, as evidenced by Schmucker, so that said communication unit would be able to provide commanding four directions.

Allowable Subject Matter

8. Claim 13 is allowed.

Regarding claim 13, the prior arts of record fail to teach or disclose a method for transferring an input from a first communication unit to a second communication unit, and displaying said input as output in said second communication unit, wherein operation of said first communication unit includes transforming the input from said intra-changeable elements of said input device to electrical signals; transferring said electrical signals from said first communication unit to a second communication unit; and wherein said second communication unit includes receiving said electrical signals from said first communication unit to said second communication unit; retransforming said electrical signals in said second communication unit to output signals to intra-changeable elements of said second communication unit; and transferring said output signals to said intra-changeable elements of said second communication unit and expand said intra-changeable elements according to said output signals.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Q. Dang whose telephone number is (571) 272-3069. The examiner can normally be reached on 9:30AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272-7308. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hung Q Dang
1/10/2007
H.D.

HD

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